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Marketing Grain Through Ohio Terminal Facilities

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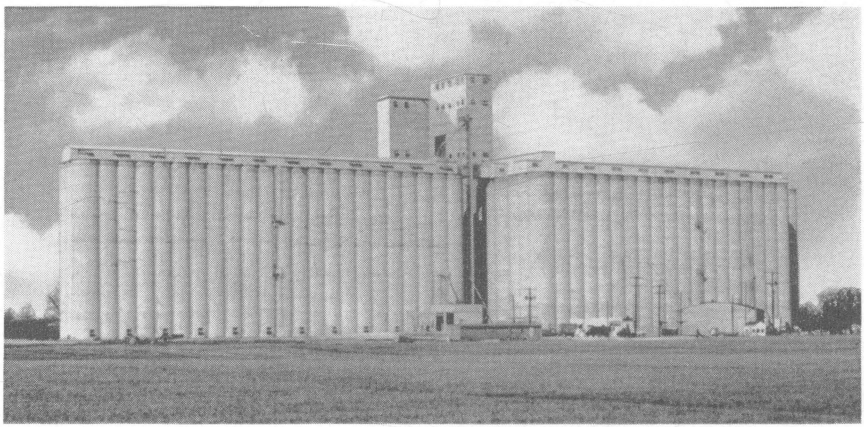

OHIO AGRICULTURAL EXPERIMENT STATION

Wooster, Ohio

CONTENTS

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This study was a part of a regional project conducted through the cooperation of the North Central Regional Grain Marketing Committee, NCM–10. The contents only apply to the information obtained from the Ohio plants.

MARKETING GRAIN THROUGH OHIO TERMINAL FACILITIES

JOHN W. SHARP and CECIL E. FULLER

INTRODUCTION

Terminal elevators and terminal processors are the focal point in the grain marketing channel. Grains from a wide area of supply tend to move to these units and from which grain is redistributed into areas of consumption.

The marketing structure of the terminal markets for grain has both an external and an internal aspect. Externally, the structure presents itself as a geographical pattern. Internally, it is institutional and the structure is essentially the same for the various major commodities.

Dating from the early 1890's, there has been a movement toward integration in buying, selling, handling and processing grain. The movement was marked by the encroachment of the terminal grain elevator upon the merchandising functions of the grain commission firm. The processing industry likewise integrated the processing function with large scale buying through its own terminal elevator facilities.

Location of terminal markets is essentially a result of transportation costs. The relative geographic location of Ohio in regards to the transportation network of the United States, both rail and water, has led to the location of many of the terminal facilities of the grain industry in this state.

Managers of Ohio terminals acting as exporters of grain, are involved in a complex business. It involves not only the problems of a domestic market but in addition, a knowledge of ocean transportation, foreign markets, methods of customs and exchange rates. The flow of grain into export channels is usually determined by the cheapest route to the seaboard. Ohio is in a geographical position that lends itself to export outlets by its proximity to Lake Erie, and the East-West rail service through the state.

PROCEDURE

In conducting this study all of the terminal facilities in the state were visited. The data were collected through personal interviews with the management of the firms. Information was obtained on the capacities, functions, receipts and shipments of each of the plants.

In this study terminal elevators were defined to include all plants in Ohio which handle and store bulk grains, of which 50 percent or more originates from other elevators and handlers rather than directly from farmer producers, and whose total bulk storage capacity is at least 100,000 bushels.

Wholesale grain processors were defined to include commercial buyers and users of raw grain whose processed products are sold primarily to wholesalers, retailers, and other dealers, rather than directly to final consumers. Only those processing plants with a daily capacity of at least 50 ton-product output, or with at least 100,000 bushels of bulk grain storage capacity were included.

In Ohio there were 47 plants eligible for this study according to the definition of terminal facilities used. They were classified into groups corresponding to the major function or operation conducted at the plant.

The classes established were:

Terminal Elevator—Those plants at which the major functions performed were storage and merchandising grain.

Feed Manufacturer—Those plants at which the major function performed was the manufacture of feed.

Flour Mills—Those plants at which the major function performed was the milling of flour (wheat).

Oilseed Processor—Those plants at which the major function performed was the extraction of seed oils.

Unclassified Plants—Those plants producing multiple products[1] (i. e., oil and feed or feed and flour, etc.).

Ohio plants which qualified as to definition of terminal operations were composed of: 12 grain terminals, 11 feed manufacturers, 6 soybean oil processors, 6 flour mills and 12 unclassified plants which performed more than one processing function.

STORAGE

It was found that in the 47 plants studied there was storage capacity for over 54 million bushels of grain.

Of this volume of storage capacity 41.4 percent was found at the terminal grain elevators.

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[1]These plants were included in the unclassified group so as to obscure some firms and to preserve the confidential nature of the data given.

TABLE 1.—Percent Average Utilization of Bulk Storage Capacity, Total and Average Storage Capacity, Total and Average Storage Volume, and Total Federal Licensed Bulk Storage by Type of Operation in Ohio

(000 Bushels)

Type of operation	Number of firms	Licensed bulk storage	Storage capacity		Storage volume		Percent average utilization of storage capacity
			Total	Avg.	Total	Avg.	
Terminal Elevator	12	17,230	22,430	1869	15,580	1225	69.46
Feed Manufacturers	11	1,530	4,760	433	2,420	221	50.84
Flour Mill	6	2,140	2,920	487	1,190	190	40.75
Soybean Processor	6	2,180	8,230	1372	6,370	1061	77.40
Unclassified	12	2,600	15,790	1316	12,450	1031	78.85
Total	47	25,680	54,130	——	38,010	——	70.22*

*Weighted average.

About 50 percent of the total storage capacity of all plants was licensed under the Federal Warehousing Act and 67 percent of the licensed capacity was at terminal grain elevators.

It was estimated that approximately 38 million bushels of storage capacity were utilized by storage of grains. The terminals and unclassified plants had the largest total storage volumes and none of the classes of plants used as much as 80 percent of their capacities.

Wheat made up 36 percent of the total volume of grain stored in terminal facilities in Ohio with corn, oats and soybeans accounting for approximately 20 percent each.

TABLE 2.—Utilization of Storage Volume by Kind of Grain, by Type of Operation in Ohio

(000 Bushels)

Type of operation	Wheat	Corn	Soybeans	Oats	Barley	Milo	Total storage volume
Terminal Elevator	10,710	2,790	1,060	1,020	——	—	15,580
Feed Manufacturer	670	970	190	470	70	50	2,420
Flour Mill	1,150	20	20	——	——	—	1,190
Soybean Processor	410	——	5,960	——	——	—	6,370
Unclassified	610	4,250	370	6,620	600	—	12,450
Total	13,550	8,030	7,600	8,110	670	50	38,010

Approximately 80 percent of the wheat stored in terminal facilities in Ohio in 1953 was stored in terminal grain elevators, whereas over 50 percent of the corn was stored in unclassified plants and more than 80 percent of the soybeans stored were held by the six terminal soybean processors in the state.

The distribution of ownership of the stored grains was accounted for by plants own inventory, other processors, country shippers and a very small amount by speculators.

TABLE 3.—Percentage Distribution of Total Storage Volume, by Accounts for the Average Plant in Ohio, by Classification of Plants

Type of operation	Own inventory	Processor	Country shipper	C.C.C.	Speculators
Terminal Elevator	39.58	3.75	12.92	42.92	0.83
Feed Manufacturer	82.91	——	11.36	5.73	——
Flour Mill	93.33	0.83	3.17	2.67	——
Oilseed Processor	92.66	——	1.67	5.67	——
Unclassified	90.50	0.84	4.42	4.24	——

C.C.C. holdings at the terminal grain elevators accounted for 43 percent of their storage volume, while at the other facilities, grain stored for the account of the C.C.C. made up only a small percent of their storage volume. The majority of their volume is used for storing on their own account.

The average length of time wheat is normally stored is shown in Table 4.

TABLE 4.—The Percent of Wheat Stored for Specified Time Periods, by Type of Operation in Ohio

Type of operation	No. of Firms		Period of Storage by Percent			
	In State	Storing*	Under 3 mo.	3-6 mo.	6-12 mo.	1-2 yrs.
Terminal Elevator	12	12	30.00	15.83	30.00	24.17
Feed Manufacturer	11	9	58.89	18.89	11.11	11.11
Flour Mill	6	6	46.67	47.00	6.33	——
Oilseed Processor	6	2	50.00	——	50.00	——
Unclassified	12	12	47.91	39.17	12.92	——

*Number of firms in these classes storing wheat.

Approximately 70 percent of the wheat entering storage at this level was removed in six months or less, with about 22 percent remaining another six months.

Almost one-fourth of the terminal elevators space allocated for wheat was tied up for more than one year storage.

All the corn moved into storage at the terminal level was in storage less than twelve months with over 80 percent moving out in three months or less and another 13 percent being removed in the next 3 month period.

TABLE 5.—The Percent of Corn Stored for Specified Time Periods, by Type of Operation in Ohio

Type of operation	No. of Firms		Period of Storage by Percent		
	In State	Storing*	Under 3 mo.	3-6 mo.	6-12 mo.
Terminal Elevator	12	12	65.42	24.58	10.00
Feed Manufacturer	11	10	75.50	18.50	6.00
Flour Mill	6	1	100.00	——	——
Unclassified	12	9	86.67	8.89	4.44

*Number of firms in this class storing corn.

It is interesting to note that the storage facilities of one of the flour mills were made available to corn but it was all moved out in less than three months.

No soybeans were held in storage by the terminal facilities in Ohio over 12 months, with approximately 67 percent of the beans being removed from bins in less than 3 months.

TABLE 6.—The Percent of Soybeans Stored by Specified Time Periods, by Type of Operation in Ohio

Type of operation	No. of Firms		Period of Storage by Percent		
	In State	Storing*	Under 3 mo.	3-6 mo.	6-12 mo.
Terminal Elevator	12	11	63.64	20.91	15.45
Feed Manufacturer	11	2	37.50	12.50	50.00
Flour Mill	6	1	100.00	——	——
Oilseed Processor	6	6	50.00	23.33	26.67
Unclassified	12	5	82.00	11.00	7.00

*Number of firms in this class storing soybeans.

The storage facilities of one of the flour mills provided storage for soybeans for a short time.

PROCESSING

Grain processing was carried on by 35 of the 47 plants included in the study. There were 11 feed manufacturers, 6 flour mills, 6 soybean oil processors and 12 mills in the unclassified group. The functions carried on by the unclassified plants were, feed manufacturing, flour milling, cereal preparation, oilseed processing, corn meal milling, field seed processing and malting.

Processing capacity shall be used to designate that amount of grain in bushels a plant could process in one year if operated at full capacity. This was based on the estimates of the plants capacity by the individual plant manager.

TABLE 7.—Percentage Utilization of Processing Capacity, Total and Average Processing Capacity and Processing Volume by Type of Operation in Ohio

Type of operation	Number of plants	Processing capacity		Processing volume		Percent average utilization processing capacity
		Total capacity	Average capacity	Total volume	Average volume	
Feed Manufacturer	11	26,490	2,408	15,920	1,447	60.10
Flour Mill	6	8,830	1,472	7,900	1,317	89.47
Oilseed Processor	6	17,000	2,833	15,900	2,650	93.53
Unclassified	12	108,590	9,049	53,670	4,473	49.42
Total	35	160,910	———	93,390	———	58.77*

*Weighted average.

The plants were estimated to have a total processing capacity of almost 159 million bushels but their volume of processing was only 93 million bushels, or they were operating at only a little better than 58 percent of their total capacity.

Wheat, corn, oats and soybeans comprise the bulk of the grains processed in Ohio facilities, along with Milo (including sorghums) barley and rye. The unclassified plants used over 50 percent of all grains processed in Ohio.

TABLE 8.—Processing Volume of Individual Grains by Type of Operation in Ohio

(000 Bushels)

Type of operation	Wheat	Corn	Soybeans	Oats	Barley	Milo	Rye	Total
Feed Manufacturer	620	9,500	———	4,420	1,130	250	——	15,920
Flour Mill	7,900	———	———	———	——	——	——	7,900
Oilseed Processor	———	———	15,900	———	——	——	——	15,900
Unclassified	15,650	15,350	10,760	10,390	1,220	50	250	53,670
Total	24,170	24,850	26,660	14,810	2,350	300	250	93,390

MERCHANDISING

In this report merchandising shall be used to define the function of buying and selling raw grains by the firms included in the study.

The terminal elevators accounted for over 87 percent of the grain merchandized with all the other classes of plants selling some grain.

TABLE 9.—Volume of Individual Grains Merchandised by Terminal Grain Facilities in Ohio

(000 Bushels)

Type of operation	Wheat	Corn	Soybeans	Oats	Barley	Milo	Rye	Total
Terminal Elevator	36,320	32,270	8,110	8,540	40	10	10	85,300
Feed Manufacturer	1,740	5,850	690	50	——	——	——	8,330
Flour Mill	90	30	30	———	——	——	——	150
Oilseed Processor	900	770	900	40	——	——	——	2,610
Unclassified	800	320	20	20	——	——	——	1,160
Total	39,850	39,240	9,750	8,650	40	10	10	97,550

Wheat and corn made up over 80 percent of the grains merchandised and each contributed about equal bushel volumes.

In the individual classes, wheat made up over 60 percent of the grains merchandised by flour mills and unclassified plants and 40 percent of the grain moved by terminal elevators. Corn accounted for over 70 percent of the volume of grain merchandised by the feed manufacturers.

GRAIN RECEIPTS

The grains were received by the 47 plants by rail, truck and water. Over 83 percent of the receipts come by rail, 14 percent by truck and only 2½ percent by water.

TABLE 10.—Annual Estimated Volume of Receipts of All Grains by Type of Transportation, by Type of Operation and Percent of Each Facility Receipts by Method of Transportation in Ohio

Type of operation	Rail		Truck		Water	
	(000) Bushels	Percent	(000) Bushels	Percent	(000) Bushels	Percent
Terminal Elevators	71,800	83.30	13,710	15.90	690	0.80
Feed Manufacturer	18,730	77.08	5,570	22.92	——	——
Flour Mill	5,490	68.20	530	6.58	2,030	25.22
Oilseed Processor	16,460	86.59	2,550	13.41	——	——
Unclassified	47,710	86.84	5,110	9.30	2,120	3.86
Total	160,190	83.22	27,470	14.27	4,840	2.51

The flour mills received 25 percent of their grain by water and only 6½ percent by truck.

Of the 185 million bushels of grain received annually by the 47 plants studied in Ohio, more than 60 percent of the grain received by the plants came from within 100 miles of the plant.

TABLE 11.—Estimated Receipts of the Four Major Grains of the Forty-seven Terminals in Ohio, by Kind of Grain and by Distance to Point of Origin

(000 Bushels)

Kind of grain	Bushels received	0–100 Miles		100–200 Miles		Over 200 Miles	
		Bushels	Percent	Bushels	Percent	Bushels	Percent
Wheat	60,074	40,777	67.8	11,631	19.4	7,666	12.8
Corn	66,284	44,424	67.0	13,218	20.0	8,639	13.0
Soybeans	36,032	22,972	63.8	8,615	23.9	4,445	12.3
Oats	22,743	8,291	36.4	3,812	16.8	10,640	46.8
Total	185,133	116,464	62.9	37,276	20.1	31,390	17.0

It was estimated that 17 percent of the grains they received came from points more than 200 miles away and just over 20 percent came from the 100 to 200 mile radius.

Tables 13, 14, 15 and 16 show the volume of grain received from 100 miles, 100-200 miles and over 200 miles, by direction, Northeast, Southeast, Southwest and Northwest.

Of over 60 million bushels of wheat the bulk, (48 million bushels) came from points west of the plants and over 65 percent of the wheat came from within 100 miles of the plants.

The receipts of corn followed a similar pattern, with the bulk of the corn coming from points west and within 100 miles of the plants.

Soybean receipts were also of this movement pattern but only 57 percent of the 16 million bushels received from the Southwest came from within a 100 mile area of the plants, yet 77 percent of the beans received from the Northeast (11.3 million bushels) came from within the 100 mile distance.

The bulk of the oats received by the terminal facilities came from the Northwest and 57 percent of those originated at shipping points over 200 miles distant.

GRAIN SHIPMENTS

Of an estimated annual shipment of grain of almost 91 million bushels over 76 percent is shipped to points over 200 miles from the terminal facilities in Ohio.

TABLE 12.—Estimated Shipments of the Four Major Grains by Terminal Facilities in Ohio by Distance to Destination

(000 Bushels)

Kind of grain	Bushels shipped	0–100 Miles		100–200 Miles		Over 200 Miles	
		Bushels	Percent	Bushels	Percent	Bushels	Percent
Wheat	35,450	4,059	11.4	4,454	12.6	26,937	76.0
Corn	39,741	1,432	3.6	2,140	5.4	36,169	91.0
Oats	6,467	1,802	27.9	655	10.1	4,010	62.0
Soybeans	9,262	5,208	56.2	1,473	15.9	2,581	27.9
Total	90,920	12,501	13.7	8,722	9.6	69,697	76.7

Only about 28 percent of the soybeans shipped are to points more than 200 miles distant and over 56 percent to points located 100 miles or less away.

About 91 percent of the corn shipped goes to receivers 200 miles or farther away. Over 25 percent of the oats is sent to receivers 100 miles or less, while 62 percent of the oats are shipped more than 200 miles distant.

Almost no corn is shipped to the west and the bulk of the corn shipped to receivers Northeast and Southeast of Ohio plants is moved more than 200 miles. Table 17 shows the direction of movement of corn and the distances shipped.

Table 18 shows the distribution of the shipments of wheat from Ohio plants. Again the bulk of the grain shipped is moved to the East with the majority of the wheat being shipped more than 200 miles. Over 4 million bushels of wheat move to the West with the majority being shipped to receivers over 100 miles from Ohio plants.

Table 19 shows the distribution of the shipments of oats from Ohio Terminal facilities. Over 75 percent of the oats were received from the Northwest and moved Northeast and Southeast. Over 50 percent of the oats were shipped to receivers at distances greater than 200 miles.

The greatest amount of soybeans shipped by the terminal facilities moved generally east and over 60 percent were shipped 100 miles or less.

TABLE 13.—Estimated Ohio Terminal Wheat Receipts by Distance and Direction of Origin

(000 Bushels)

Type of operation	Total receipts	Total bushels from area	% Northeast		
			0-100	1-200	Over 200
			(Miles)		
Terminal Elevators	34,934	5,020	78	16	6
Feed Manufacturer	2,300	355	66	34	0
Flour Mill	6,692	1,007	70	30	0
Oilseed Processor	565	30	100	0	0
Unclassified	15,582	1,692	76	16	8
Total	60,073	8,104	76	18	6

Type of operation	Total receipts	Total bushels from area	% Southeast		
			0-100	1-200	Over 200
			(Miles)		
Terminal Elevators	34,934	4,098	69	31	0
Feed Manufacturer	2,300	301	100	0	0
Flour Mill	6,692	908	90	10	0
Oilseed Processor	565	30	100	0	0
Unclassified	15,582	491	100	0	0
Total	60,073	5,828	76	24	0

Type of operation	Total receipts	Total bushels from area	% Southwest		
			0-100	1-200	Over 200
			(Miles)		
Terminal Elevators	34,934	13,436	75	24	1
Feed Manufacturer	2,300	984	79	21	0
Flour Mill	6,692	2,498	48	33	19
Oilseed Processor	565	425	100	0	0
Unclassified	15,582	8,385	51	16	33
Total	60,073	25,728	65	22	13

Type of operation	Total receipts	Total bushels from area	% Northwest		
			0-100	1-200	Over 200
			(Miles)		
Terminal Elevators	34,934	12,380	84	15	1
Feed Manufacturer	2,300	660	61	14	25
Flour Mill	6,692	2,279	24	34	42
Oilseed Processor	565	80	100	0	0
Unclassified	15,582	5,014	39	9	52
Total	60,073	20,413	66	15	19

TABLE 14.—Estimated Ohio Terminal Corn Receipts by Distance and Direction of Origin

(000 Bushels)

Type of operation	Total receipts	Total bushels from area	% Northeast		
			0-100	1-200 (Miles)	Over 200
Terminal Elevators	34,768	3,021	83	16	1
Feed Manufacturer	14,406	1,234	100	0	0
Flour Mill	25	4	100	0	0
Oilseed Processor	1,500	30	80	20	0
Unclassified	15,582	1,692	76	16	8
Total	66,281	5,981	84	13	3

Type of operation	Total receipts	Total bushels from area	% Southeast		
			0-100	1-200 (Miles)	Over 200
Terminal Elevators	34,768	3,322	75	25	0
Feed Manufacturer	14,406	1,994	95	5	0
Flour Mill	25	5	100	0	0
Oilseed Processor	1,500	45	80	20	0
Unclassified	15,582	491	100	0	0
Total	66,281	5,857	84	16	0

Type of operation	Total receipts	Total bushels from area	% Southwest		
			0-100	1-200 (Miles)	Over 200
Terminal Elevators	34,768	11,797	67	31	2
Feed Manufacturer	14,406	4,933	55	30	15
Flour Mill	25	6	100	0	0
Oilseed Processor	1,500	750	80	20	0
Unclassified	15,582	8,385	51	16	33
Total	66,281	25,871	60	26	15

Type of operation	Total receipts	Total bushels from area	% Northwest		
			0-100	1-200 (Miles)	Over 200
Terminal Elevators	34,768	16,628	79	21	0
Feed Manufacturer	14,406	6,245	53	13	34
Flour Mill	25	10	100	0	0
Oilseed Processor	1,500	675	80	20	0
Unclassified	15,582	5,014	39	9	52
Total	66,281	28,572	66	17	17

TABLE 15.—Estimated Ohio Terminal Soybean Receipts by Distance and Direction of Origin

(000 Bushels)

Type of operation	Total receipts	Total bushels from area	% Northeast		
			0-100	1-200 (Miles)	Over 200
Terminal Elevators	7,628	1,137	97	2	1
Feed Manufacturer	688	35	100	0	0
Flour Mill	24	6	100	0	0
Oilseed Processor	16,920	2,765	57	43	0
Unclassified	10,772	1,494	26	61	13
Total	36,032	5,437	57	39	4

Type of operation	Total receipts	Total bushels from area	% Southeast		
			0-100	1-200 (Miles)	Over 200
Terminal Elevators	7,628	956	99	1	0
Feed Manufacturer	688	102	99	1	0
Flour Mill	24	6	100	0	0
Oilseed Processor	16,920	315	100	0	0
Unclassified	10,772	1,492	26	61	13
Total	36,032	2,871	61	32	7

Type of operation	Total receipts	Total bushels from area	% Southwest		
			0-100	1-200 (Miles)	Over 200
Terminal Elevators	7,628	3,096	93	7	0
Feed Manufacturer	688	381	8	64	28
Flour Mill	24	6	100	0	0
Oilseed Processor	16,920	6,835	49	37	14
Unclassified	10,772	6,053	50	15	35
Total	36,032	16,371	57	24	19

Type of operation	Total receipts	Total bushels from area	% Northwest		
			0-100	1-200 (Miles)	Over 200
Terminal Elevators	7,628	2,439	97	2	1
Feed Manufacturer	688	170	38	45	17
Flour Mill	24	6	100	0	0
Oilseed Processor	16,920	7,005	81	9	10
Unclassified	10772	1,733	26	53	11
Total	36,032	11,353	77	15	8

TABLE 16.—Estimated Ohio Terminal Oats Receipts by Distance and Direction of Origin

(000 Bushels)

Type of operation	Total receipts	Total bushels from area	% Northeast		
			0-100	1-200 (Miles)	Over 200
Terminal Elevators	8,026	835	79	7	14
Feed Manufacturer	4,213	152	7	93	0
Oilseed Processor	100	20	100	0	0
Unclassified	10,404	442	31	23	46
Total	22,743	1,449	57	21	22

Type of operation	Total receipts	Total bushels from area	% Southeast		
			0-100	1-200 (Miles)	Over 200
Terminal Elevators	8,026	493	98	2	0
Feed Manufacturer	4,213	0	0	0	0
Oilseed Processor	100	15	100	0	0
Unclassified	10,404	39	100	0	0
Total	22,743	547	99	1	0

Type of operation	Total receipts	Total bushels from area	% Southwest		
			0-100	1-200 (Miles)	Over 200
Terminal Elevators	8,026	2,395	84	16	0
Feed Manufacturer	4,213	170	85	15	0
Oilseed Processor	100	20	100	0	0
Unclassified	10,404	201	25	0	75
Total	22,743	2,786	80	15	5

Type of operation	Total receipts	Total bushels from area	% Northwest		
			0-100	1-200 (Miles)	Over 200
Terminal Elevators	8,026	4,303	44	33	23
Feed Manufacturer	4,213	3,891	16	8	76
Oilseed Processor	100	45	100	0	0
Unclassified	10,404	9,722	22	14	64
Total	22,743	17,961	26	17	57

TABLE 17.—Estimated Shipments of Corn of Terminal Facilities in Ohio, by Type of Operation, by Distance and by Direction of Movement (000 Bushels)

Type of operation	Estimate of annual shipment	Total bushels shipped	Northeast % total by distance		
			0-100	1-200	Over 200
				(Miles)	
Terminal Elevators	32,046	21,168	6	2	92
Feed Manufacturer	5,850	4,660	0	7	93
Flour Mill	25	15	73	27	0
Oilseed Processor	1,500	750	0	0	100
Unclassified	320	192	0	0	100
Total	39,741	26,785	5	2	93

Type of operation	Estimate of annual shipment	Total bushels shipped	Southeast % total by distance		
			0-100	1-200	Over 200
				(Miles)	
Terminal Elevators	32,046	10,768	1	12	87
Feed Manufacturer	5,850	1,190	1	6	93
Flour Mill	25	7	86	14	0
Oilseed Processor	1,500	750	0	0	100
Unclassified	320	128	0	0	100
Total	39,741	12,843	2	10	88

Type of operation	Estimate of annual shipment	Total bushels shipped	Southwest % total by distance		
			0-100	1-200	Over 200
				(Miles)	
Terminal Elevators	32,046	110	20	20	60
Feed Manufacturer	5,850	0	0	0	0
Flour Mill	25	0	0	0	0
Oilseed Processor	1,500	0	0	0	0
Unclassified	320	0	0	0	0
Total	39,741	110	20	20	60

Type of operation	Estimate of annual shipment	Total bushels shipped	Northwest % total by distance		
			0-100	1-200	Over 200
				(Miles)	
Terminal Elevators	32,046	0	0	0	0
Feed Manufacturer	5,850	0	0	0	0
Flour Mill	25	3	100	0	0
Oilseed Processor	1,500	0	0	0	0
Unclassified	320	0	0	0	0
Total	39,741	3	100	0	0

TABLE 18.—Estimated Shipments of Wheat of Terminal Facilities in Ohio, by Type of Operation, by Distance and by Direction of Movement (000 Bushels)

Type of operation	Estimate of annual shipment	Total bushels shipped	Northeast % total by distance		
			0-100	1-200	Over 200
				(Miles)	
Terminal Elevators	32,524	10,976	29	3	68
Feed Manufacturer	1,738	826	12	20	68
Flour Mill	186	78	0	23	77
Oilseed Processor	200	90	100	0	0
Unclassified	802	615	0	37	63
Total	35,450	12,585	27	6	67

Type of operation	Estimate of annual shipment	Total bushels shipped	Southeast % total by distance		
			0-100	1-200	Over 200
				(Miles)	
Terminal Elevators	32,524	18,058	2	2	96
Feed Manufacturer	1,738	417	0	12	88
Flour Mill	186	80	0	0	100
Oilseed Processor	200	50	100	0	0
Unclassified	802	38	0	74	26
Total	35,450	18,643	2	3	95

Type of operation	Estimate of annual shipment	Total bushels shipped	Southwest % total by distance		
			0-100	1-200	Over 200
				(Miles)	
Terminal Elevators	32,524	830	12	8	80
Feed Manufacturer	1,738	0	0	0	0
Flour Mill	186	0	0	0	0
Oilseed Processor	200	0	0	0	0
Unclassified	802	0	0	0	0
Total	35,450	830	12	8	80

Type of operation	Estimate of annual shipment	Total bushels shipped	Northwest % total by distance		
			0-100	1-200	Over 200
				(Miles)	
Terminal Elevators	32,524	2,660	4	96	0
Feed Manufacturer	1,738	495	0	100	0
Flour Mill	186	28	36	64	0
Oilseed Processor	200	60	100	0	0
Unclassified	802	149	0	95	5
Total	35,450	3,392	5	94	1

TABLE 19.—Estimated Shipments of Oats of Terminal Facilities in Ohio, by Type of Operation, by Distance and by Direction of Movement

(000 Bushels)

Type of operation	Estimate of annual shipment	Total bushels shipped	Northeast		
			% total by distance		
			0-100	1-200	Over 200
				(Miles)	
Terminal Elevators	6,296	2,449	47	1	52
Feed Manufacturer	50	25	0	100	0
Oilseed Processor	100	50	100	0	0
Unclassified	20	10	0	100	0
Total	6,466	2,534	47	3	50

Type of operation	Estimate of annual shipment	Total bushels shipped	Southeast		
			% total by distance		
			0-100	1-200	Over 200
				(Miles)	
Terminal Elevators	6,296	3,287	10	16	74
Feed Manufacturer	50	25	0	100	0
Oilseed Processor	100	50	100	0	0
Unclassified	20	10	0	100	0
Total	6,466	3,372	11	17	72

Type of operation	Estimate of annual shipment	Total bushels shipped	Southwest		
			% total by distance		
			0-100	1-200	Over 200
				(Miles)	
Terminal Elevators	6,296	490	31	7	62
Feed Manufacturer	50	0	0	0	0
Oilseed Processor	100	0	0	0	0
Unclassified	20	0	0	0	0
Total	6,466	490	31	7	62

Type of operation	Estimate of annual shipment	Total bushels shipped	Northwest		
			% total by distance		
			0-100	1-200	Over 200
				(Miles)	
Terminal Elevators	6,296	490	31	7	62
Feed Manufacturer	50	0	0	0	0
Oilseed Processor	100	0	0	0	0
Unclassified	20	0	0	0	0
Total	6,466	70	100	0	0

TABLE 20.—Estimated Shipments of Soybeans of Terminal Facilities in Ohio, by Type of Operation, by Distance and by Direction of Movement (000 Bushels)

Type of operation	Estimate of annual shipment	Total bushels shipped	Northeast % total by distance		
			0-100	1-200 (Miles)	Over 200
Terminal Elevators	7,528	4,085	62	6	32
Feed Manufacturer	687	281	14	85	1
Flour Mill	25	15	100	0	0
Oilseed Processor	1,000	500	100	0	0
Unclassified	22	12	17	83	0
Total	9,262	4,893	63	10	27

Type of operation	Estimate of annual shipment	Total bushels shipped	Southeast % total by distance		
			0-100	1-200 (Miles)	Over 200
Terminal Elevators	7,528	2,541	55	6	39
Feed Manufacturer	687	126	21	0	79
Flour Mill	25	0	0	0	0
Oilseed Processor	1,000	500	100	0	0
Unclassified	22	10	100	0	0
Total	9,262	3,177	61	4	35

Type of operation	Estimate of annual shipment	Total bushels shipped	Southwest % total by distance		
			0-100	1-200 (Miles)	Over 200
Terminal Elevators	7,528	650	2	97	0
Feed Manufacturer	687	80	100	0	0
Flour Mill	25	0	0	0	0
Oilseed Processor	1,000	0	0	0	0
Unclassified	22	0	0	0	0
Total	9,262	730	14	86	0

Type of operation	Estimate of annual shipment	Total bushels shipped	Northwest % total by distance		
			0-100	1-200 (Miles)	Over 200
Terminal Elevators	7,528	252	30	38	32
Feed Manufacturer	687	200	0	50	50
Flour Mill	25	10	100	0	0
Oilseed Processor	1,000	0	0	0	0
Unclassified	22	0	0	0	0
Total	9,262	462	19	42	39

SUMMARY AND CONCLUSIONS

Of the 54 million bushels storage capacity reported by the terminal facilities in Ohio approximately 70 percent of that capacity is utilized by storing grain. Over 36 percent of the 38 million bushels of grain storage normally used in terminal facilities is for storage of wheat.

It was found that 80 percent of all grain stored was for the plant's own inventory, and only 12 percent was for the account of the C.C.C.

One-fourth of the wheat stored in terminal elevators remained in storage more than one year, whereas all other grains were moved out in less than one year. Most of the terminal processors that stored grains moved the grain out of their bins in less than one year. Flour mills, that stored grains other than wheat, moved those grains out in less than three months.

The processing firms reported a processing capacity of almost 160 million bushels, yet on the average utilized only 59 percent of that capacity.

Wheat, corn, and soybeans were generally processed in similar volumes and account for over 80 percent of the grains processed.

Wheat and corn were merchandised by the terminal facilities in similar quantities and these two grains accounted for over 80 percent of all grains merchandised.

Eighty-three percent of the receipts of all grains came in by rail, 14 percent by truck and the remainder by water. Over 60 percent of all grain receipts, except oats, came into plants from an area of 100 miles or less. Approximately one-half of oats were received from shippers located more than 200 miles distant.

Over 75 percent of the grain shipped from Ohio terminal facilities moved more than 200 miles. Over 90 percent of the corn shipped was sent to receivers at points more than 200 miles away.

This data shows that terminal storage and processing facilities in Ohio are not being fully utilized. With such a backlog of storage and processing capacities the established plants are in an advantageous competitive position; therefore, any firm planning to expand or build new facilities in the state should approach such a program with utmost caution. Any expansion program planned should first find assured new market outlets for their products.